



**DEPARTMENT OF THE ARMY
OPERATIONS GROUP
NATIONAL TRAINING CENTER
FORT IRWIN, CA 92310-5000**

AXTY-FS

07 Aug 01

MEMORANDUM THRU Commander, Rotational Field Artillery Battalion

FOR Rotational Brigade Commander

SUBJECT: Memorandum of Instruction (MOI) for RSOI Observed Fire Training (OFT) and NTC Force-on-Force Effects Demonstration

1. REFERENCES:

- a. NTC Rules of Engagement, 1 July 2000.
- b. TM 9-1270-229-10, Hellfire Ground Support System (HGSS), 1 April 1996.
- c. TM 9-1260-477-12, Operator and Organizational Maintenance Manual For Electro-Optical Target Designator Set AN/TVQ-2 G/VLLD, January 1982.
- d. FM 6-30, TTP for Observed Fire, 16 July 1991.

2. BACKGROUND. Two trends stand out as principal causes for poor artillery effects at the NTC. First, FISTs and COLTs frequently deploy into force-on-force operations with inoperable HGSS and/or targeting stations in the FISTV, or they do not occupy OPs with all of their equipment. As a result, they deploy without the necessary equipment required to execute first round fire for effect (FFE) missions. Second, fire support and maneuver leaders do not appreciate the difficulty in determining accurate target location without a HGSS, G/VLLD, or other target-locating device. Observers fail to properly use the tools and procedures available to them to achieve the first requirement of accurate predicted fire (accurate target location and size). In short, they rely on FFE as their primary method for executing an indirect fire mission when they should be adjusting fires.

3. PURPOSE.

a. The purpose of this training is to reverse these negative trends in accurately locating and attacking artillery targets at the NTC. This MOI outlines the allocation of training resources, NTC Support, and O/C assistance to allow the BDE CDR and FSCOORD to achieve RSOI training objectives for FIST, COLT, and maneuver shooters (scouts and M1/M2 crews) for observed fire training. This is an opportunity for the unit to train, and leaders must be prepared to train their soldiers when they arrive at the training site. Prior to arrival at the NTC, the direct support artillery battalion should assess their strengths and weaknesses and set clear objectives for this training event. This MOI **recommends** tasks to be trained, resources, personnel, and rotational unit responsibilities to ensure effective training. Additionally, the training demonstrates force-on-force fire marking procedures and SAWE MILES effects on instrumented vehicles.

b. It is imperative that units put leaders in charge of the training and are prepared to train when they arrive at the training site. O/Cs will coach, and teach teams requiring additional assistance.

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3. EXECUTION.

a. Phase I. Equipment Serviceability. Equipment readiness verification and HGSS training occurs on RSOI 3 at 1300 hours. All HGSSs, G/VLLDs, and FISTVs will be checked in the Dust Bowl to ensure they are operational. O/Cs will lend expertise on the HGSS, G/VLLD, and FISTV to verify equipment readiness and operator proficiency. Additionally, key leaders may conduct a reconnaissance of the OFT site on Day 3 of RSOI.

b. Phase II. Observed Fire Training. The training unit will occupy tactical observation posts on Brigade Hill (vic NV 352088) oriented to the north and west, conduct necessary PCC/PCI, communications and other readiness checks, and be prepared to execute NLT 0700 hours on RSOI 4. At that time, Wolf 07 will conduct an initial fire support inbrief to all fire support personnel. O/Cs and NTC support personnel (fire markers) will be present to provide the SAWE effects demonstration and to assist the observed fire training from 0800 to 1500 hours. The O/Cs will conduct AARs with their respective units following the training.

4. SUMMARY. The keys to success are home station preparation, clearly defined training objectives, command emphasis, and leaders that take charge and train their soldiers. Units that effectively conduct this training are better prepared to execute accurate indirect fires during the rotation for the following reasons:

a. FISTs and COLTs deploy to the maneuver training area with operational HGSSs, section equipment, and FISTVs.

b. COLTs, FISTs, and maneuver shooters learn proven NTC TTPs for accurate observed fires and appreciate the need for accurate target location to achieve desired effects with indirect fires.

c. Observers know what NTC force-on-force fire marking procedures and SAWE MILES effects look like on the NTC battlefield.

8. POC for this MOI is MAJ Brent Parker, Bronco 27, or CPT Jay Soupene, Bronco 27A, at DSN 470-5546, commercial (760) 380-5546, or by email at Bronco27@irwin.army.mil.

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TAB A: Phase I-Equipment Serviceability

TAB B: Phase II- Observed Fire Training

TAB C: ROE/Force-on-Force
Effects

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TAB A: Phase I-Equipment Serviceability

1. REFERENCES:

a. TM 9-1270-229-10, Hellfire Ground Support System (HGSS), 1 April 1996.

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2. Draw HGSS as early as possible, preferably by RSOI 2. Ensure COLT and FIST chiefs thoroughly inspect their HGSS prior to leaving the MILES warehouse. Deploy with sufficient tripods, G/VLLD batteries, battery chargers, and cables to verify equipment serviceability. Use the HGSS to verify TSCD operation prior to drawing M981 FISTVs from ITT. You can do this at the draw yard. During the vehicle road test, you can verify G/VLLD serviceability in the targeting head at the laser site located behind the draw yard.

3. Equipment pre-combat checks and unit leader verified pre-combat inspections should be conducted as early as possible. All HGSSs, G/VLLDs, and FISTVs/COLT vehicles will be checked by O/Cs in the Dust Bowl to ensure they are operational on RSOI 3 from 1300 hours until complete. O/Cs will be present to lend expertise on HGSS, G/VLLD, and FISTV to verify equipment readiness and operator proficiency.

4. Rotational unit is responsible for the following:

a. Ensure all FISTVs, COLT vehicles, G/VLLDs, HGSS, and associated equipment to support both mounted and dismounted operations are fully mission capable.

b. Ensure charged G/VLLD batteries and required cables are available and serviceable for dismounted operations.

c. Provide, as a minimum, COLT platoon sergeant, all COLT members, BN FSNCOs, FIST Chiefs, and all FIST members for Phase 1 training.

5. Training conducted will focus on setting up, initializing, and performing operational checks on the G/VLLD and HGSS in the dismounted and mounted modes.

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TAB B: Phase II-Observed Fire Training

1. REFERENCES:

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- b. TM 9-1270-229-10, Hellfire Ground Support System (HGSS), 1 April 1996.
- c. TM 9-1260-477-12, Operator and Organizational Maintenance Manual For Electro-Optical Target Designator Set AN/TVQ-2 G/VLLD, January 1982.
- d. FM 6-30, TTP for Observed Fire, 16 July 1991.

2. Observed fires training provides you an excellent opportunity to exercise your observers prior to force-on-force. PCCs/PCIs prior to movement, OP occupation drill, digital and voice communications, terrain familiarization, survey support, CFF and target location procedures and techniques for delivering special munitions can be incorporated into this training event. **Your unit is responsible for executing the training event.** O/Cs will give feedback based on target acquisition accuracy and SAWE effects, and will coach and teach teams requiring additional assistance.

3. The training unit will occupy tactical observation posts on Brigade Hill (vicinity NV 352088) oriented to the north and west, conduct necessary PCC/PCI, communications and other readiness checks, and be prepared to execute NLT 0700 hours on RSOI 4. At that time, Wolf 07 will conduct an initial fire support in-brief to all fire support personnel. O/Cs and NTC support personnel (fire markers) will be on hand to provide the SAWE effects demonstration and to assist the observed fire training from 0800 to 1500 hours.

4. Rotational unit is responsible for the following:

- a. Ensure all FISTVs, COLT vehicles, HGSS, and section equipment to support both mounted and dismounted operations are fully mission capable.
- b. Ensure charged G/VLLD batteries and required cables are available and serviceable for dismounted operations.
- c. Provide, as a minimum, the brigade FSO/FSNCO, COLT PSG, all COLT members, task force FSOs and FSNCOs, and all FIST/COLT members for training. Maneuver shooter (M1/M2 crews, Scouts, Aerial Scouts, etc) participation in this training is highly recommended.
- d. Provide brigade and task force FSEs, and the battalion FDC (preferred) for command and control, with a sufficient number of platoon FDCs to execute timely mission processing. If using platoon FDCs only, they must be able to process up to four observers in an autonomous mode.
- e. Ensure digital and voice radio checks are complete prior to the fire support in-brief. Ensure FED, IFSAS, and /or AFATDS data bases are accurate and complete prior to execution.
- f. All teams need binoculars, declinated M2 compasses, OF fans, maps, coordinate scales, and all equipment required for locating targets without a laser targeting device.
- g. Units may have to provide three HMMWVs or other vehicles with operational MILES and an operator/driver to re-key MILES for the training. These vehicles will serve as stationary/moving targets for the soldiers to call fire missions on. A fire marker team will position near each target to provide force-on-force effects marking. If the unit's training plan requires additional target vehicle support, the training unit will provide them.

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5. Based on recent NTC observations, the following missions are required:

- a. Adjust Fire with and without laser locating devices. This mission maximizes terrain appreciation and provides the observer an opportunity to see how fire markers replicate adjustments on the force-on-force battlefield. Polar plot is the preferred method.
- b. Fire for Effect. Emphasizes accurate target location. Observers are able to determine target effects in terms of suppress, neutralize, or destroy based on SAWE replication.
- c. Copperhead. This mission exercises the entire fire support team from observer to shooter. O/Cs monitor execution and can help prepare observers to execute this often overlooked combat multiplier.
- d. Smoke. Often the most difficult mission to execute in terms of timeliness, location, and effect.
- e. Engage a moving target.

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TAB C: ROE/Force-on-Force Effects

1. REFERENCE. NTC Rules of Engagement, 1 July 2000.

2. The training unit will occupy tactical observation posts on Brigade Hill (vicinity NV 352088), conduct necessary PCC/PCI, communications and other readiness checks, and be prepared to execute NLT 0700 hours on RSOI 4. O/Cs and NTC support personnel (fire markers) will be on hand to provide the Force on Force/SAWE effects demonstration. This demonstration will familiarize the unit with force-on-force fire marking procedures and SAWE effects on instrumented vehicles:

3. Methods for marking fires:

a. HE/DPICM: Artillery airburst and ground simulators plus one HC smoke grenade.

b. Smoke/WP:

(1) Duration of 15 minutes or less: Smoke grenades.

(2) Duration less than 30 minutes, but greater than 15 minutes: Smoke pots.

(3) Duration 30 minutes or greater: Smoke generator.

c. FASCAM:

(1) Artillery delivered FASCAM will be marked to their actual size. The corners which define the edge or edges that face the general direction from which the enemy is approaching and will be marked first.

(2) The ground signature for artillery delivered FASCAM is yellow smoke and five artillery simulators at initiation of the minefield (fired by the fire marker). The fire marker will then emplace orange flags on barber poles. Poles are one meter apart at the center of the enemy and friendly sides of the minefield and there is one barber pole on each of the corners. Two airburst simulators will be fired when each barber pole is emplaced.

2. BDA Categories:

a. Catastrophic kill: The Combat Vehicle Kill Indicator (CVKI) light will flash continuously.

b. Near miss: The CVKI light will flash two times and stop.

c. Mobility kill: The CVKI light will flash four times and stop.

d. Firepower kill: The CVKI light will flash four times and stop.

3. Copperhead:

a. The NTC will issue one HGSS to the unit for every operational G/VLLD present in the Dust Bowl. During force-on-force, firing units must have a copperhead training round and perform correct dry fire procedures to get credit for a successful mission.

b. During force-on-force, to successfully execute a copperhead mission the observer will provide their O/C the following:

(1) HGSS/G/VLLD location.

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(2) Message to observer (MTO) and engagement commands.

(3) Pulse repetition frequency (PRF) code.

(4) Target description.

c. Successful engagement will be determined by the following:

(1) Angle-T less than 800 mils to the target.

(2) Observer to target range does not exceed 3,000 meters for moving target (7,000 meters for OH-58Ds or AH-64s) or 5,000 meters for a stationary target (10,000 meters for OH-58Ds or AH-64s).

(3) Line of sight is not obstructed or obscured.

(4) Target is (HGSS) lased for the last 13 seconds of the projectile's flight.

(5) The same PRF code set on both the Copperhead projectile and the laser designator.

(6) The target is within the Copperhead footprint.